THE PROGRESS OF SCIENCE

THE SCRIPPS INSTITUTION FOR BIOLOGICAL RESEARCH

THE new wharf and library-museum building at the Scripps Institution for Biological Research of the University of California, at La Jolla, made possible by the gift of the $100,000 by Miss Ellen B. Scripps in 1914, were dedicated last summer. President Benjamin Ide Wheeler, of the University of California, presided, and short addresses were made by Ex-chancellor David Starr Jordan, of the Leland Stanford Jr. University; Director D. T. MacDougal, of the Botanical Research Department of the Carnegie Institution of Washington; Professor G. H. Parker, of Harvard University, and Dr. Wm. E. Ritter, the scientific director of the institution.

The wharf, one thousand feet long and twenty feet wide, is of reinforced concrete except the deck. At its sea end are the pump for the salt water circulatory system with the electric motor for running it, a tide gauge, a self-registering thermometer for keeping the temperature of the sea water, a current meter, a small naturalists' house, two sets of davits for hoisting small boats on to the wharf, two companionways, one on each side, which can be lowered and raised by winches provided for the purpose, and various contrivances to facilitate the work of handling boats and making collections and observations from the wharf.

This addition to the institution's "plant" very greatly increases the facilities for carrying out the marine part of the research program. Besides securing to the research and exhibition aquaria an ample supply of oceanic water (the site of the institution is on an open coast), it makes a large number of animal and plant species of the oceanic plankton available for statistical and experimental investigation without the expense and inconvenience of boat work.

The usefulness of the wharf for reaching out to the open ocean is largely enhanced by a small high-power motor boat, a gift of Mr. E. W. Scripps. As this craft can be lowered from its davits in a few minutes and as it easily makes twenty miles an hour, the operating radius from the laboratory for a wide scope of planktonic and hydrographic conditions with two men for doing the field work, and during a period of several hours, is twenty to thirty miles With its present equipment the marine side of the institution may be looked upon as a sort of perpetual deep-sea plankton expedition, working intensively rather than extensively.

It is greatly hoped by the management of the institution that the unique facilities in this respect afforded by the institution will serve to attract more attention from American naturalists to this great domain of nature than it has received in later years.

The library-museum building, constructed of concrete and hollow tile, is two stories high, each story having a height and window arrangement for gallery as well as main floor stacks. By this plan the potential capacity of the building is somewhat more than 50,000 volumes. But for the present and for some years to come only one of the stories—the upper—is needed for the library. The stack room now in use has a capacity of 25,000 volumes at least. This provides for the growth of the library for the next five, possibly the next ten, years. The librarian's room, the catalogue room, and a large reading room used also as

an assembly hall, are likewise on the second floor.

On the first floor are the business office, the meeting room for the local board of administration, a curator's room, and, covering the major part of the whole space, the exhibition collections. These exhibits are biological and oceanographic and are being developed with a two-fold end in view; one strictly scientific, the other educational. As taxonomic and distributional investigations are, and it is anticipated will continue to be, important parts of the institution's work, a carefully identified and well-arranged display of as much as possible of the fauna of the region is deemed an indispensable adjunct to the scientific work being prosecuted.

By opening the museum to the public and devoting some care and funds to making the exhibits intelligible, it is hoped visitors may learn about what is being done in the laboratories, at sea, and in the field. With the new building now in use, the original building is devoted exclusively to what it was designed for—research laboratories.

Besides the wharf and library-museum building there have been erected during the year an additional structure for the investigations on inheritance and environmental influence in mice; a small public aquarium; a "commons" with dining room capacity for about forty persons; and nine additional cottages for citizens of the "biological colony."

BY-PRODUCTS OF THE FORESTS

In addition to the ordinary uses of wood with which we are familiar, we are dependent upon the forest for a variety of products whose appearance does not indicate their origin. According to a bulletin of the Forest Service, science is constantly learning of new constituents which enter into the make-up of wood and is finding new uses to which these constituents and those already known can be put. Powder for munitions or blasting, disinfectants for protection against contagious diseases, and artificial silk for clothing are among the products obtained in whole or in part from wood.

Charcoal, as every one knows, is essential for the manufacture of black powder. All the acetone used as a solvent in making nitrocellulose powders is derived from acetic acid, a product of hard-wood distillation. Great Britain, it is said, is dependent upon the United States for acetone used in making cordite. Black walnut is a standard for gunstocks, and has been so much in demand for the past two years that our supply of this valuable wood has been considerably reduced and other woods, notably birch, are being substituted. From Europe comes the complaint that there is a shortage of willow for making wooden legs.

Pure wood alcohol is the only substance which can be converted commercially into formaldehyde, which is universally used for disinfection against such contagious diseases as smallpox, scarlet fever and tuberculosis. The experts at the Forest Products Laboratory have conducted extensive experiments on the production of grain or ethyl alcohol from wood and have been successful in experimental work in raising the yield and lowering the cost of production. If this process can be put on a commercial basis, the foresters say, it will result in putting the millions of tons of coniferous sawdust and other material which is now wasted every year to a profitable use.

By converting cellulose, one of the elements of wood, into a gelatinous material, known as viscose, a wide field is opened up for the utilization of wood waste, and a new line of products, varying all the way from sausage casings to tapestry, is added to the already lengthy list. Many of the so-called "silk" socks, neckties and fancy braids now on the market contain artificial silk made from wood.

About nine tenths of all the paper which we use is made from wood. Besides the detailed investigations of the